

Tyler V. Franconi (ed.), *Fluvial Landscapes in the Roman World*. Journal of Roman archaeology. Supplementary series, 104. Portsmouth, RI: Journal of Roman Archaeology, 2015. Pp. 164. ISBN 9780991373086. \$89.50.

Reviewed by Toon Bongers, Ghent University (toon.bongers@ugent.be)

Fluvial Landscapes in the Roman World results from a conference organised by the Oxford Roman Economy Project, entitled ‘Shifting fluvial landscapes in the Roman world: new directions in the study of ancient rivers’. “The conference aimed to explore the social and environmental context of rivers in the Roman world, especially how Roman activity influenced hydrological activity and how, in turn, hydrological activity influenced Roman life” (p. 6).

The aim of the resulting publication is similar: it highlights the potential of interdisciplinary investigations into the relationship between society and rivers, including the surrounding areas or “fluvial landscapes”. 1 Case studies from France, Italy, Germany, Syria, and Egypt examine “how hydrological events like floods, sedimentation, channel movement, droughts, and deltaic movement influenced settlement location, economic networks, transportation systems, agricultural schemes, and irrigation networks.” 2 The various expert contributors, including editor Tyler V. Franconi, offer wide-ranging experience in (geo)-archaeology, history, physical geography and (hydro)-geomorphology. Although not explicitly mentioned, the volume seems to be aimed primarily at a professional audience (PhD students and researchers).

Franconi starts the volume off with his chapter “Studying rivers in the Roman world”, in which he lays the foundation for the historical narratives explored further throughout the subsequent chapters. Franconi explains very well the dynamic relations between rivers, economic activities, and (military) settlements. Furthermore, he highlights the importance of (including) environmental data in archaeological research. This chapter and its bibliography, may (and should) serve as an introduction for anyone interested in the topic.

Campbell avoids the “hard sciences” in “Watery perspectives: a Roman view on rivers” and moves on to topics such as Rome’s interventionist attitudes towards rivers and the various interactions between rivers and society. He clarifies that a river was not one thing, but that it could simultaneously be a border, communication line, divinity, source of life, military strategic point, transportation route, etc. He neatly

integrates archaeology and epigraphy in this historical chapter, which offers insights into societies' views on altering rivers, but also the ways in which rivers shaped the ever-changing society. With regard to river transport in particular, this contribution offers a short but thorough introduction to the various questions surrounding the study of riverine transport (cost vs. distance, upstream vs. downstream transport, integrated transport systems etc.). Despite the modest length of this article, more reference to related works would have been welcome. Furthermore, Campbell refers to "efforts — over-ambitious in my view — to assess climate change" (p. 23) It is not clear whether the author refers to specific studies or to the entire study of past climate change. If the latter, I disagree: the use and optimisation of climatic data in the reconstruction of historical narratives is not only helpful, but necessary (as many chapters in this volume prove).

In "River Adjustment to change: the Rhône in France during the Roman period" Bravard provides a preliminary summary of studies on river change in France. Next, he presents several case-studies on flooding in the Rhône valley, which according to him "demonstrate the existence of a wet period within a long dry period" (p. 34). By presenting the evidence, or lack of evidence, for flooding Bravard explains the complexity of a fluvial system, which responds to climate-induced hydrological change and sediment transportation. He ends by rightfully stating that it is not easy to differentiate between climate- or human-induced hydrological crises. To conclude, Bravard is successful in building a bridge between (sometimes overly detailed) geological studies and archaeology, e.g. the use of archaeological artefacts to date alluvial deposits.

Leveau's chapter "Environmental risk in the Lower Rhône valley: high water levels and floods" complements Bravard's in both subject (e.g. flooding, hydrological processes) and in spatial focus (lower Rhône valley). Leveau writes about environmental risks in the Lower Rhône valley, focusing on negative high water levels. He describes the relationship between Arles (Arelate) and the Rhône delta with regard to the management of fluvial risk. Leveau begins his chapter with the geographical and historical context of the study area, which simultaneously serves as a chronological overview of the relevant (geo)archaeological studies performed in the Lower Rhône area. The picture that emerges is one of a conflict between economic versus environmental explanations for the attested archaeological record, a conflict which he tries to transcend by combining all the available sources (historical, economical, archaeological and environmental). Leveau's chapter is dense, information-rich and integrates all the available sources in an orderly fashion. However, it is perhaps too detailed at times, causing the reader to lose track of the bigger picture.

“High chrono-stratigraphical resolution of the harbour sequence of Ostia: palaeo-depth of the basin, ship draught, and dredging” by Goiran et al. tries to reconstruct the port of Ostia based on a high-resolution chrono-stratigraphic study of two core drillings. The aim was threefold: (1) understand the nature and speed of the filling, (2) compare basin depths with draughts of ships and (3) find the relationship between the depth of the ancient Tiber at its mouth and the depth of the harbour basin. Using a multi-disciplinary approach, the authors confirm the presence of a depression that they interpret as a harbour basin. Their conclusions show the possible results of such an approach, but they remain cautious.

In “Pater Rhenus: the hydrological history of Rome's German frontier” Franconi discusses the study of the Rhine in relation to fluvial change. He focuses on four questions: (1) how to attest and prove fluvial change; (2) the possible reasons for fluvial change (anthropogenic, climatic or both); (3) the consequences of fluvial change to the archaeological record; (4) how all of this changed over time. This chapter is a reaction to a passive view of the environment, specifically rivers, in the reconstruction of historical narratives. Franconi highlights often overlooked aspects of fluvial archaeology, such as: the role of rivers in society (as opposed to their military use); the backward projection of modern elements to the Roman era by scholars; and the necessity of identifying the different segments of rivers and attributing environmental data to either human or climatic events (also see Bravard). His comparative, integrative and summarising approach makes this chapter a very enjoyable read.

Morhange et al. (“Geoarchaeology of ancient harbours in lagoonal contexts: an introduction”) provide a chapter on the durability of lagoonal harbours and the factors affecting it. The article’s point of departure is that ancient harbours provide valuable insights into landscape changes, by allowing the reconstruction of paleo-environmental processes, which in turn shed light on both *longue durée* environmental events and short term high-energy events such as storms and floods. This study shows the significance of studying and understanding sediment processes, both in environmental and in historical sciences. Furthermore, it is interesting to see the continuous changing of the fluvial system explained by looking at the movement of energy through the system. The chapter, however, sometimes lacks a clear link to historical research and comes across as descriptive, rather than explanatory.

Wilson addresses the study of paleo-climatic events, rivers, torrents, floods, drought and to a lesser degree the transportation of goods in Roman North Africa in “Rivers, wadis and climate in North Africa: torrents and drought”. He starts his article by not only stressing the importance of climatic factors and rainfall to agriculture, but also the importance of these factors to the transportation of agricultural goods. Next, he reports on the attested traces of water management in relation to environmental change. While

doing so, he remains rightfully cautious about the interpretation of certain palynological data, since it is not always clear whether they refer to climate- or human-induced change (also see the chapters of Bravard and Franconi).

Whiting (“Gift of the Orontes: fluvial landscapes of northwest Syria in late antiquity”) is critical of the general perception of the Orontes as a tool for transportation or irrigation. The exact nature of the river, its uses, and its impact on the surrounding settlements have only recently been studied. With this chapter she weakens the general perception that all rivers would have been used on a large scale in antiquity, for either economical or agricultural purposes. Whiting, from the start, makes a clear distinction between current and former hydrological conditions, and she rightfully points out the pitfalls when using climatic data. The geographical focus of her chapter makes it well-placed beside that of Wilson. In addition to providing an overview of recent research to frame the questions mentioned above, Whiting displays a clear view of future opportunities in the study of fluvial landscapes.

“360 Days of Summer” by Brendan Haug, discusses Roman-Egyptian papyri from the Fayyum. The first part of his lengthy contribution reveals the untapped potential of using geographic, historical and administrative writings from the mediaeval Islamic period. The second part focuses solely on the information that written evidence reveals on the character and rhythm of the Fayyum fluvial landscape. Here Haug brings to life the local inhabitants living in the Fayyum, not only focusing on elites, officials or soldiers (as is often the case). Haug shows that he is aware of the interaction between the human (social) system and the environment (the ecosystem). Or in his words: “These myriad and ever-changing human entanglements with the fluvial have in turn produced a complex tapestry of liquid landscapes whose intricate evolutionary histories have received little scholarly analysis.” He furthermore refers to concepts such as “resilience of the landscape”, adding to the discourse of this volume, which states that the landscape is no longer a static backdrop to historical narratives, but an influencer and shaper of historic events.

Purcell’s short conclusion (“A second Nature? The riverine landscapes of the Romans”) offers “a historian’s reaction to the new directions represented by this research, with some hints to wider questions which fluvial approaches may illuminate” (p. 159).

The volume achieves what it set out to do: highlighting the potential of interdisciplinary approaches studying hydrological activity in the Roman world. Out of the various chapters, the implicit image has

emerged that both society and the fluvial landscape can be conceptualised as a system, between which a dialectic relationship exists. This negates the image of a static environment that forms the backdrop to historical events. When discussing the environment and environmental proxies, all authors rightfully mentioned the ambiguities connected to this type of data. Regrettably, this volume shows a general lack of attention to theory. A single chapter on possible theoretical frameworks would have offered valuable guidance for future scholars in this field.

There are a moderate number of editing errors throughout (p. 69 “(ii) this sector could be a landing stage and handling cargoes with a quay to the north along the left bank of the Tiber (fig. 2)”; p. 79: “but can estimated based on vertical position”; p. 90: “geo-morphological”; p. 104: “(3)” should be “(c)”, while chapters 3, 4, 7 and 8 contain mislabelled figures and grammatical errors which impede the reader’s understanding. Finally, fig. 2 and 3 on p. 112-13 would have been more successful at bringing their message across if they had been presented in colour.